

88091

S/110/60/000/007/004/005
E073/E535

Movement of a Short Electric Arc in a Magnetic Field

second for polished and degreased electrodes and increases with decreasing gaps. Roughness and contaminations of the electrode surfaces, reduction of the gap below 0.2 to 0.4 mm and also reduction of the magnetic field potential below 250 Oe bring about a decrease by one order of magnitude of the speed of movement of the arc.

- 4) During the first instant of arc formation, a stoppage can be observed in its movement, which will be the larger the lower the atmospheric pressure. At normal pressure it may reach 8 msec.
- 5) The speed of movement of an arc drops with decreasing atmospheric pressure, and at a certain critical pressure, of the order of 350 mm Hg, the direction of movement changes. X
- 6) In the case of ferromagnetic electrodes that are fed from one side by a current and in absence of an external field, the speed of movement of the arc exceeds by several times the corresponding values pertaining to non-magnetic electrodes. In the case of polished soft steel electrodes, the speed amounts to several metres per second, i.e. is considerably higher than for similar gap configurations with copper and brass electrodes. In the case of Card 3/4

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electrodes coarsened by a large number of earlier investigations and stainless steel electrodes, the speed of arc movement reaches tens of metres per second, i.e. is of the order of the speeds between non-magnetic electrodes in an external magnetic field. 7) The behaviour of a short electric arc in a magnetic field requires further study, particularly as regards the following points: a) the mechanism of emission of electrons from the cathode spot; b) the mechanism of shifting of the cathode spot in the case of non-magnetic and ferromagnetic electrodes; c) delay in the movement of the arc during the first instant of its formation; and d) causes of a sharp decrease in the speed of movement of the arc at magnetic field potentials below the critical one. There are 6 figures and 16 references: 4 Soviet and 12 non-Soviet.

SUBMITTED: January 20, 1960

Card 4/4

BRONFMAN, A.I., inzh.; GUTMAN, Yu.M., inzh.; KUZ'MINA, L.F., inzh.

Magnetic valve discharger with a rating of 500 kv. for protection
against lightning surges. Vest. elektroprom. 31 no.12:32-35 D '60.
(MIRA 14:2)

(Lightning protection)

S/196/61/000/009/039/052
E194/E155

AUTHORS: Bronfman, A.I., Gutman, Yu.M., and Kuz'mina, L.F.

TITLE: A valve-type magnetic lightning arrester for a voltage of 500 kV

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.9, 1961, 39, abstract 9I 247. (Vestn. elektroprom-sti, no.12, 1960, 32-35)

TEXT: Unlike lightning arresters for lower voltage classes, the arrester type PBMΓ-500 (RVMG-500) uses magnetic spark gaps with rotating arc. This has permitted improvement of the protective characteristic and maintains for 500 kV circuits the insulation level previously adopted for 400 kV circuits. The use of magnetic spark gaps permits an increase in the arc-suppressing capacity of the arrester and ensures its reliable operation with currents up to 300 A peak; the remanent voltage with an impulse current of 10 kA has been reduced by 25%. The construction of the arrester is described and the principal electrical characteristics guaranteed by the manufacturer are given,

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A valve-type magnetic lightning ... S/196/61/000/009/039/052
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including the volt-ampere and volt-second characteristics. The minimum breakdown-voltage occurs with a pre-discharge time of 5 - 10 microseconds. Then the minimum impulse coefficient is 0.7. Over the pre-impulse time range of 2 - 20 microseconds the impulse breakdown-voltage does not exceed 1200 kV peak. The relative reduction in remanent voltage combined with the reduction in the breakdown-voltage ratio made it possible to raise the insulation level of equipment protected by the arrester to 2.5 times the phase voltage. The main constructional and operating features of the arrester are given. 5 figures, 3 literature references.

[Abstractor's note: Complete translation.]

Card 2/2

SYRMAY, A.G., nauchnyy sotr.; OBERMEYSTER, A.M., nauchnyy sotr.;
BRONFMAN, A.I., nauchnyy sotr.; SHIMKO, K.N., kand. tekhn.
nauk; PARAKHONSKIY, B.M., kand. ekon. nauk. Prinimali ucha-
stiye: ZHURILOV, V.I., nauchnyy sotr.; ZUBKOV, M.I., nauchnyy
sotr.; SHVARTS, G.L., nauchnyy sotr.; MIKHEYEV, A.P., doktor
tekhn. nauk, prof., otv. red.; BYKOV, I.K., red. izd-va;
DOROKHINA, I., tekhn. red.

[Water and air transportation in capitalist countries: trends in
the development of equipment] Vodnyi i vozdushnyi transport kapita-
listicheskikh stran; tendentsii razvitiia tekhnicheskikh sredstv.
Moskva, Izd-vo Akad.nauk SSSR, 1961. 350 p. (MIRA 15:1)

1. Akademiya nauk SSSR. Institut kompleksnykh transportnykh pro-
blem.

(Merchant marine)

(Aeronautics, Commercial)

BRONFMAN, A.I., inzh.; LEVSHUNOV, R.T., kand.tekhn.nauk; SOLOMONIK,
Ye.A., inzh.

Improved PN-20, PB-35, and PNB-35 partition insulators. Vest.
elektroprom. 32 ng.7:79 J1 '61. (MIRA 14:10)
(Electric insulators and insulation)

BRONFMAN, A.I., inzh.; GUTMAN, Yu.M., inzh.

Gas-type magnetic valve discharger with a 330 kv. voltage rating.
Vest. elektroprom. 32 no.9:73-74 S '61. (MIRA 14:8)
(Electric lines--Overhead) (Electric protector)

- BRONFMAN, A.I., inzh.; GUTMAN, Yu.M., inzh.

Valve-type multiple unit magnetic discharger for 500 kv.
Vest.elektroprom. 33 no.4:29-33 Ap '62. (MIRA 15:4)
(Electric lines--Overhead) (Electric protection)

BRONFMAN, A.I., inzh. (Leningrad)

Arc travel in ring shaped clearances of spark gaps in magnetic
valve dischargers. Elektrichestvo no.8:56-62 Ag '63.
(MIRA 16:10)

BRONFMAN, A.I., inzh.; KRENGAUZ, E.B., inzh.; Prinimali uchastiye:
MARKMACH, B.S., inzh.; IL'ICHEVA, L.S., tekhnik-konstruktor;
LEBEDEVA, G.A., tekhnik-konstruktor

Modernized magnetic-valve dischargers for 110-500 kv.
voltages. Elektrotehnika 34 no.10:30-32 0 '63.

(MIRA 16:11)

BRONFMAN, A.I., inzh.

Recovery of the strength of spark gaps with a rotating arc.
Elektrotehnika, 35 no.2:19-22 F '64. (MIRA 17:3)

BRONFMAN, A.I., inzh.

Electrical strength of a spark gap with rotating arc of magnetic-valve dischargers. Elektrichestvo no. 6:40-43 1964
(MIRA 1787)

ACCESSION NR: AT4045615

8/0000/64/000/000/0177/0184

AUTHOR: Savelyev, V. P. (Candidate of technical sciences, Senior research associate); Bronfman, A. I. (Head of high voltage laboratory)

TITLE: Dischargers for 500 kv lines

SOURCE: Dal'niye elektropredach 500 kv (Long-distance transmission of 500 kv electric power); sbornik statey. Moscow, Izd-vo Energiya, 1964. 177-181

TOPIC TAGS: high voltage line, power line, electric power transmission, voltage overshoot, voltage discharge, discharger, power line insulation, magnetic valve discharger, arc quenching, lightning arrester

ABSTRACT: The presently accepted decrease of the insulation level in 500 kv lines to 1.2 million v is the base voltage and a pulse voltage of up to 1260 kv was made possible by the use of a new magnetic valve discharger which enables to remove the energy of the lightning as well as those due to internal causes. The discharger is a magnetic field to quench the arc in the spark gap at currents of 1000 a and its nonlinear resistance element is manufactured from a new material "shirokoperite" whose permeability is higher than that of any foreign material. Illustrated in Fig. 1 of the Enclosure. The new material was described in detail.

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ACCESSION NR: AT4045615

V.I. Pruzhinina-Granovskaya et al. (Electrichestvo, 1962, No. 2). The spark gap is based on the rotating arc principle, where the arc is created between two round copper electrodes, mounted concentrically in the same plane, and is rotated by a magnetic field from two barium oxide ferrites. The principal advantage of the rotating arc gap is its relatively fast resistance recovery after breakdown (shown in Fig. 1). Enclosure (EPVD) compared to a conventional gap (RVSM). Two types of magnetic dischargers are discussed: the lightning arrester RVMD (Fig. 2) and the lightning arrester with an internal overshoot protector (Fig. 3). The lightning arrester has nonlinear ferrite resistance (Fig. 4) and is parallel with a number of magnetic spark gaps so that the place at 1.5-2 times the phase voltage for a lightning discharge and at 1.5-2 times the phase voltage for an internal overshoot. The basic electrical characteristics of various dischargers are presented in tabular form. Orig. art. has 1 figure and 1 table.

ASSOCIATION: VEI; Vy*sovol'naya laboratoriya zavoda "Proletariy" (High Voltage Laboratory of the "Proletariy" Plant)

Card 2/5

ACCESSION NR: AT4045615

SUBMITTED: 13Mar64

ENCL: 02

SUB CODE: EE

NO REF SOV: 008

OTHER: 000

Cord 3/5

ACCESSION NR: AT4045615

ENCLOSURE: 01

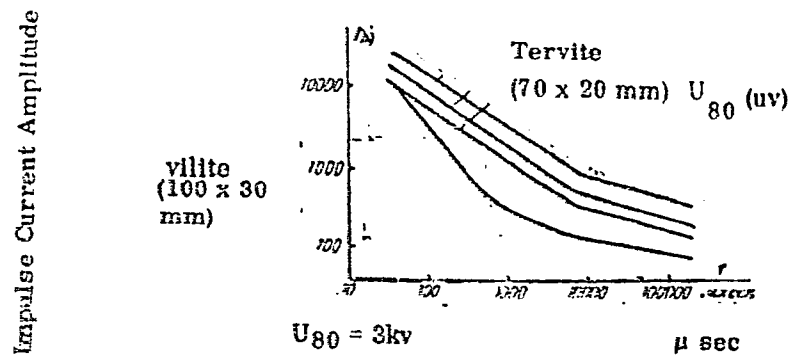


Fig. 1. Permeability of tervite and villite resistance elements.

Card 4/5

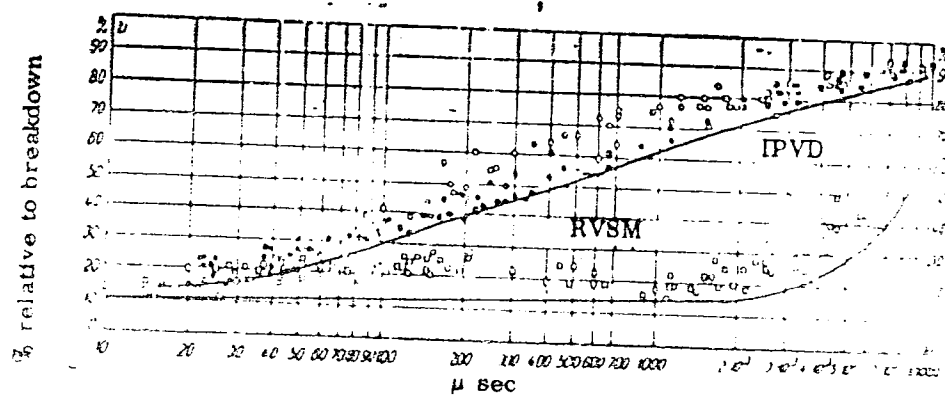


Fig. 2. Restoration of the resistance of RVSM spark gap and an IPVD magnetic spark gap.

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AT4045616

S/0000/64/000/000/0184/0190

AUTHOR: Bronfman, A. I. (Head of high voltage laboratory); Kalinin, Ye. V. (Candidate of technical sciences, Supervisor of a sector of high voltage laboratory); Solomonov, N. M. (Candidate of technical sciences, Senior research associate)

TITLE: Investigation of the discharge characteristics of magnetic valve discharges for 500 kv lines

SOURCE: Dal'niye elektroporedachi 500 kv (long-distance transmission of 500 kv. electric power); sbornik statey. Moscow, Izd-vo Energiya, 1964, 184-190

TOPIC TAGS: high voltage line, power line, electric power transmission, voltage overshoot, voltage discharge, magnetic valve discharger, lightning arrester, breakdown voltage

ABSTRACT: The discharge characteristics of two types of magnetic dischargers used on 500 kv lines were investigated: the lightning arrester, described previously by the author (Vestnik Elektropromyshlennosti, 1960, N. 12), and the combined lightning and switching overshoot arrester, shown in Fig. 1 of the Enclosure. When the discharger breaks down due to an internal line voltage overshoot at industrial frequencies there is a residual voltage pulse across the nonlinear "tervite" resistors which is close to the nominal value of the device and could presumably trigger the lightning arrester. (U)

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ACCESSION NR: AT4045616

thus necessary to investigate the magnitude and the nature of the voltages across various elements and to ascertain that a correct coordination exists between the spark gap breakdown voltage and the voltage across the valve elements. Specifications call for a breakdown voltage of lightning arresters of $765 \text{ kv} \pm 7\%$ with a probability of 0.75-0.8 and a breakdown voltage of the lightning arrester portion of a combined discharger of 760 kv with a probability of 0.9. Results of statistical investigations of the breakdown voltages shown in Fig. 2 of the Enclosure, show that the rate of rise of 3-5 mm/min did not influence breakdown significantly. A plot of breakdown voltage versus time (i.e. frequency) is shown in Fig. 3 of the Enclosure, from which it is evident that for low frequencies the breakdown of the combined discharger is 2.45 times lower than that of the lightning arrester. The satisfactory coordination between the portions of the combined discharger is evident from Fig. 2, which shows that the probability of the breakdown of the lightning arrester on an internal overshoot is 6.25% at a voltage level which is 2.45 times higher than the phase voltage ($K_X = 2.45$). Experimental investigation of the transient response of the spark gaps has shown that at industrial frequency they will almost never break down on internal overshoots if shunted with a $390 \mu\text{f}$ condenser. It was also established that a combined discharger will switch over from the lightning mode to the internal mode with a residual voltage of

Cord 2/6

ACCESSION NR: AT4045616

1250-1280 kv. The external insulation of the dischargers must be kept clean in order to prevent deterioration of the breakdown voltage. Orig. art. has: 2 equations and 11 figures.

ASSOCIATION: Vy*sokovol'nyaya laboratoriya zavoda "Proletariy" (High Voltage Laboratory of the "Proletariy" Plant); Vy*sokovol'nyaya laboratoriya NIPT (High Voltage Laboratory of NIPT)

SUBMITTED: 13Mar64

ENCL:

SUB CODE: EE

NO REF SOV: 006

OTHER: 000

Card 3/6

ACCESSION NR: AT4045618

ENCLOSURE: 01

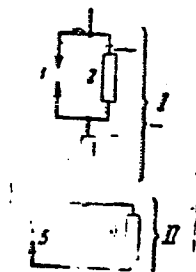


Fig. 1. Simplified diagram of a combined 500 kv discharger: I - lightning arrester part (1-multiple spark gap, 2-large nonlinear resistance, 3-tervite nonlinear resistance). II - switching overshoot protector (4-valve elements, 5-spark elements).

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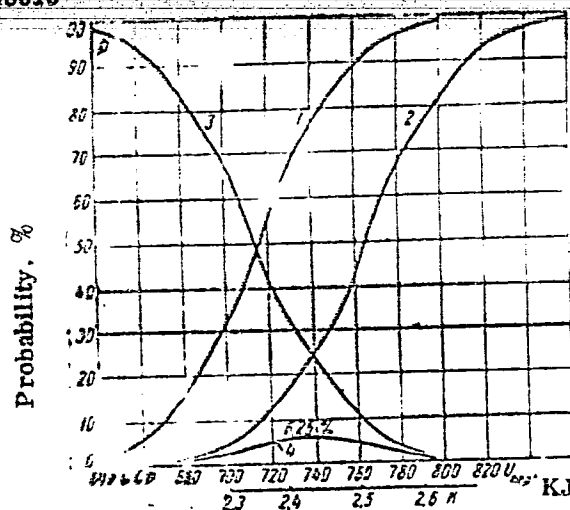


Fig. 2. Probability of operation of a lightning arrester and a switching transient discharger at 500 kv and coordination of their performance at industrial voltage frequencies. 1-breakdown probability of lightning arrester. 2-breakdown probability of switching overshoot discharger. 3-probability of failure of switching overshoot discharger. 4-probability of simultaneous occurrence of events 1 and 3.

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ACCESSION NR: AT4045616

ENCLOSURE: 63

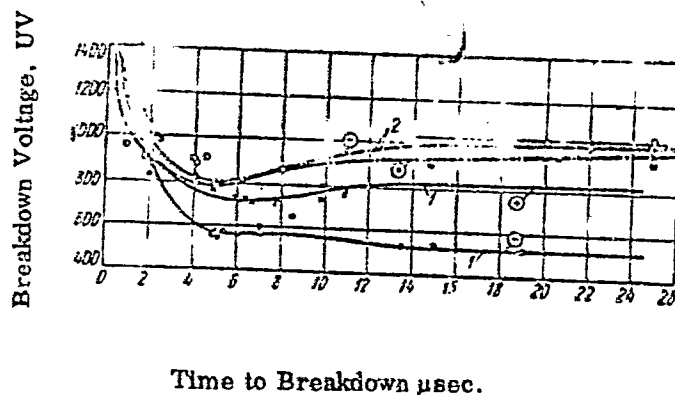


Fig. 3. Volt-second characteristics of 500 kv magnetic dischargers: 1 - combined discharger, 2 - lightning arrester, 3 - breakdown voltage amplitude at 50 cps.

Card 6/6

BRONFMAN, A.I., inzh.

Recovery strength of arc gaps with rotating arc. Elek. sta. 35
no.11:42-45 N '64. (MIRA 18:1)

L 22276-66 EWT(1)
ACC NR: AR6005193

AUTHOR: Bronfman, A. I.

SOURCE CODE: UR/0058/65/000/009/G018/G019
57
B

TITLE: Voltage of repeated breakdown of spark gaps with rotating arc
SOURCE: Ref. zh. Fizika, Abs. 9G151.

REF. SOURCE: Sb. Proboy dielektrikov i poluprovodnikov. M.-L.,
Energiya, 1964, 58-63

TOPIC TAGS: dielectric breakdown, arc discharge, gas discharge,
spark gap, thermal ionization

TRANSLATION: The author investigated the repeated breakdown of spark
gaps with rotating arc, occurring several milliseconds after the
extinction of the arc. As a result of the fact that during that time
the gas temperature in the gap drops below 1000K, thermal ionization
and dissociation could be neglected. The magnitude of the recovered
electric strength is explained to a sufficient degree by the change
in the density of the gas in the gap. The repeated breakdown under

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SUB C

Card 2/2 nst

BRONFMAN, A.M.

Compensation flow of seawater during the recession of water in the shallows off the mouth of a river (as exemplified by the coastal area near the mouth of the Don River). Okeanologiya 2 no.4:627-630 '62. (MIRA 15:7)

1. Donskaya ust'yevaya stantsiya.
(Don River Estuary--Hydrology)

BRONFMAN, A.M.

Some traits of water circulation in the estuary region of the Don
during water recessions due to wind. Trudy GOIN no. 78:29-39 '64.

(MIRA 17:20)

BRONFMAN, A.M.; ALEKSANDROV, A.N.

Sedimentation in the shallows off the mouth of a river; noted
on the example of the Don River. Okeanologiya 5 no.4:600-672
'65. (MIRA 18:9)

1. Rostovskiy-na-Donu gosudarstvennyy universitet i Donskaya
ust'yevaya stantsiya.

"Zones of Static Stability of a System Consisting of Two Synchronous Machines Operating on a Common Load with Given Characteristics," page 74.

High Voltage Technique, Moscow, Gosenergoizdat, 1958, 664pp
(Series: Its Trudy, No. 155)

This collection of articles sums up the principal results of investigations and studies made by Prof. A. A. Gorev, Dr. Tech. Sci., and his staff in the field of high voltage phenomena and techniques at LPI (Leningrad Polytech Inst.) It was at this institute that Prof. Gorev completed his higher scientific education and then taught and carried on his investigations in the field until his death in 1955. In 1956, by decree of Mnr of Higher Education, the High-Voltage Lab. at LPI was named after A. A. Gorev.

BRONFMAN, I.B.

An honorable title calls for greater achievements. Avtom., telem. i
svyaz' 6 no.7:23-26 JI '62. (MIRA 16:2)

1. Nachal'nik Donetskoy distantzii svyazi Donetskoy dorogi.
(Railroads--Employees) (Railroads --Electronic equipment)
(Railroads--Communication systems)

BRONFMAN, L.I.; POLONSKIY, L.S.; ZABULIKA, V., red.; TARAKANOVA, V., tekhn.
red.

[Small-scale mechanization for the maintenance of swine in large groups] Malaia mekhanizatsiia pri krupnogruppovom sodержanii svinei. Kishinev, Gos. izd-vo "Kartia molodoveniaske," 86 p. (MIRA 14:7)
(Swine houses and equipment)

BRONFMAN, L.I., nauchnyy sotrudnik; POLONSKIY, L.S., nauchnyy sotrudnik

Construction of pens for group feeding of calves. Zhivotnovodstvo
23 no.6:34-35 Je '61. (MIRA 16:2)

1. Moldavskiy institut zhivotnovodstva i veterinarii.
(Calves—Feeding and feeds)

BRONFMAN, M.D.

Transfinite-real numbers. Uch. zap. MOPI 123:179-195 '63.
(MIRA 17:4)

BRONFMAN, R.Z.

Effect of the preparation of rod surfaces for drawing on the
quality of nails. Bul. TSNIICHM no.1:50 '58. (MIRA 11:5)

1. Zavod "Krasnyy Profintern."
(Wire drawing) (Nails and spikes)

BRONFMAN, R.Z.; RYBACHENKO, A.N.

Pickling of low-carbon steel in sulfuric acid with an addition
of sodium chloride. Stal' 21 no.9:844-845 S '61. (MIRA 14:9)

1. Zavod "Krasnyy Profintern".
(Steel--Pickling)

SOV-47-58-5-8/28

AUTHORS: Bronfman, V.V., and Pinskiy, A.A. (Moscow, 692nd Secondary School)

TITLE: Instruction on Ohm's Law in the 7th Class (Izucheniye zakona Oma v VII klasse) Aid to Beginning Teachers (V pomoshch' nachinayushchim uchitelyam)

PERIODICAL: Fizika v shkole, 1958, Nr 5, pp 41-46 (USSR)

ABSTRACT: To avoid confusion in the pupils' minds, the authors consider it expedient to teach Ohm's law, in the 7th class, in the following order: 1) Quantity of electricity and strength of current, their units and method of measuring (3 hours). 2) The concept of voltage, of measuring units and methods (2 hours). 3) Resistance of conductors and Ohm's law (10 hours). The authors express their opinion how the 9 lessons should be conducted, what questions the students should be asked and how the experiments should be carried out. There are 3 tables, 3 drawings and 1 Soviet reference.

Card 1/2

SOV-47-58-5-8/28

Instruction on Ohm's Law in the 7th Class. Aid to Beginning Teachers.

ASSOCIATION: 692-ya srednyaya shkola, Moskva (692nd Secondary School, Moscow)

1. Electricity--Study and teaching

Card 2/2

BRONFMAN, V.V.; KAMENETSKIY, S.Ye. (Moskva)

Functional dependences in the physics and mathematics courses. Mat.
v shkole no.1:43-47 Ja-F '63. (MIRA 16:6)
(Physics--Study and teaching) (Mathematics--Study and teaching)
(Functions)

Obvodenie i eksploatatsiia zemel' v sviazi s osushchestvleniem problemy Volgo-Donskogo kanala. [Irrigation and exploitation of land in connection with the solution of the Volga-Don Canal problem]. (Zemleustroitel', Moskva, 1927, no. 2, p. 10-13).

DLC: In process.

SO: Soviet Transportation and Communications. A Bibliography. Library of Congress, Reference Department, Washington, 1952, Unclassified.

BRONGULEYEV, V. V.

"Traces of a Horizontal Laminar Flow in the Original Deposit Layers of the
(Russian) Platform," Dokl. AN SSSR, 65, No.3, 1949

Moscow Geological Prospecting Inst. im. Ordzhonikidze

BRONGULEYEV, V.V.

The most important kinematic types of folded structures in the
earth's crust. Biul.MOIP. Otd.geol.30 no.4:110-111 J1-Ag'55.
(Folds (Geology)) (MLRA 8:12)

BRONGUL'YIN, V.V.

Principle genetic types of folded structures in the earth's crust.
Sov.geol. no.54:84-104 '56. (MIRA 18:9)
(Folds (Geclogy))

AUTHOR:

Bronguleyev, V.V.
Bronguleyev, V.V.

5-3-20/37

TITLE:

Erosion Phenomena in the Middle-Paleozoic Sediments of the Karatau Range Mistaken for Overthrusts and Folded Overappings (Yavleniya razmyvov v srednepaleozoyskikh otlozheniyakh khrebtu Karatau, prinyimayemykh oshibochno za nadvigovyye i sharriazhnyye perekrytiya)

PERIODICAL:

Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel Geologicheskiiy, 1957, No 3, pp 166-167 (USSR)

ABSTRACT:

The mountainous range of Bol'shoy Karatau has been studied for a long time, but was considered mostly from the concept of overthrusts and folded overlappings. The author investigated this problem during 7 years and came to the conclusion that such a concept was erroneous. Materials collected by the author indicate that breccias of this region originated mainly by sedimentation and are normal parts of the geological stratigraphy. A new stratigraphy of the Famen formation (Upper Devonian) and the Turney formation (Lower Carboniferous) has been devised and its correctness has been confirmed by Paleontological data.

AVAILABLE:
Card 1/1

Library of Congress

BRONGULEYEV, V.V.

Basic features in the structure and development of the middle
Paleozoic structural level in the central Kara-Tau. Izv.AN SSSR.
Ser.geol. 22 no.2:15-41 P '57. (MLRA 10:5)

1.Moskovskiy geologo-razvedochnyy institut im. S.Ordzhonikidze.
(Kara-Tau--Geology, Stratigraphic)

BRONGULEYEV, V.V.; STILKHOTVORTSEVA, A.A.

Origin of Famen and Tournai carbonate breccias in the Greater Kara-Tau [with summary in English]. Sov. geol. 1 no.3:51-68 Mr '58.

(MIRA 11:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki.

(Kara-Tau—Breccia)

AUTHOR: Bronguleyev, V.V. 11-58-5-12/16
TITLE: Letter to the Editor (Pis'mo v redaktsiyu)
PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geologicheskaya, 1958,
Nr 5, pp 129-130 (USSR)
ABSTRACT: The author replies to the criticisms expressed by M.N.
Koroleva in an article appearing in this issue of this
periodical, pages 127-128.
SUBMITTED: 12 February 1958
AVAILABLE: Library of Congress
Card 1/1 1. Literature-Review

BRONGULEYEV, V.V.; USPENSKAYA, Ye.A

Fossil erosion surfaces in carbonate formations. Izv.vys.
ucheb.zav.; geol.i razv. 2 no.4:29-41 Ap '59.
(MIRA 12:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh
metodov razvedki i Moskovskiy geologorazvedochnyy institut im.
S.Ordzhonikidze.
(Geology, Structural) (Erosion)

BRONGULEYEV, V.V.

Origin and classification of folds. *Bul.MOIP.Otd.geol.* 34 no.4:
3-16 JI-Ag '59. (MIRA 13:8)
(Folds (Geology))

BRONGULEYEV, V.V.

Structural features and possible means of the formation of geosynclinal folded structures as illustrated by the Greater Kara-Tau. (MIRA 14:6)
Sov.geol. 4 no.5:59-76 My '61.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki.

(Kara-Tau—Geology, Structural)

BRONGULEYEV, V.V.; SIDYACHENKO, A.I.

More about the detailed biostratigraphy of Famenian sediments
in the central Kara-Tau. Izv.vys.ucheb.zav.; ~~geol.~~ i razv. 4
no.8:11-32 Ag '61. (MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedkii Sibirskoye otdeleniye AN SSSR, Institut geologii i geofiziki.
(Kara-Tau--Paleontology, Stratigraphic)

BRONGULEYEV, Vadim Vasil'yevich; MENNER, V.V., doktor geol.-miner.
nauk, prof., red.; BEKMAN, Yu.K., ved. red.; VORONOVA, V.V.,
tekhn. red.

[Structure and history of the formation of the Middle
Paleozoic structural stage in the central Kara-Tau based on
geological and geophysical data; stratigraphy and physical
properties of rocks] Stroenie i istoria formirovaniia sred-
nepaleozoiskogo strukturnogo etazha TSentral'nogo Karatau po
geologicheskim i geofizicheskim dannym; stratigrafiia i fi-
zicheskie svoistva porod. Pod red. V.V.Mennera. Moskva, Gos-
toptekhnizdat, 1961. 284 p. (MIRA 16:7)
(Kara-Tau--Geology)

BRONGULEYEV, V.V.; BLOKH, I.M.

Problems of the combined use of geophysical and geological
methods for geological surveying on a 1:25,000 and 1:50,000
scale. Sov. geol. 7 no.3:66-75 Mr '64. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh
metodov razvedki.

SOV/105-59-3-17/27

8(3)

AUTHOR:

Bronguleyeva, M. N., Engineer

TITLE:

The Electric Field of a Direct Current Cable (Elektricheskoye pole kabelya postoyannogo toka)

PERIODICAL:

Elektrichestvo, 1959, Nr 3, pp 78 - 82 (USSR)

ABSTRACT:

In this article it is demonstrated that in the calculation of the insulation of cables and of apparatus for direct current the deviations of the field distribution due to volume charges as compared to the ideal distribution according to the conductivity must be taken into account, as has been proved by experiments. The test cables were during the production provided with 5 probes consisting of metallized paper foil. The cables were impregnated with an oil-colophony substance. The experiments showed that the formation of volume charges produces a considerable increase of the field strength at the cable core and at the sheathing, whereas a reduction of the field strength was found to occur in the middle section of the insulation. The maximum concentration of volume charges develops at the cable core and at the sheathing. If the potential is increased the

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volume charge density at the cable core and at the sheathing increases as well as the deviation of the electric field distribution from the "ideal" distribution. If the polarity at the cable core is negative, the maximum volume charge density at the core and at the sheathing is somewhat higher than in the case of positive polarity. This agrees with the smaller electric strength observed with negative polarity as compared to that with positive polarity. In this paper general formulae are presented which can be used in the calculation of the electric field strength according to the known volume charge distribution in the insulating layer. They can be applied in the calculation and construction of the insulation of cables and of apparatus for high-tension direct current operation. The formulae obtained permit to determine the zone of increased field strength in the insulation and the variation of field strength if the geometrical parameters are changed. If a volume charge distribution in the cable insulation is assumed which approximately corresponds with experimental data, the zone of increased field strength near the cable core and near the sheathing is on both sides about $1/5$ of the total insulation thickness. The method of the

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experimental procedure described here and the analytical interpretation of the results can also be used in the investigation of cables in a heated state. In this case it is only necessary to interpret the function $f(x)$, which specifies the "ideal" potential distribution according to the conductivity, as describing the potential, which has been computed under consideration of the modification of the conductivity of the insulation layers due to load stress. There are 7 figures, 1 table, and 4 references, 2 of which are Soviet.

ASSOCIATION: Zavod "Moskabel'" ("Moskabel'" Factory)

SUBMITTED: October 15, 1958

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34 no.10:630 0 '62.

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35 no.5:697-705 S.-O '64

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Konsultant: prof. dr med. O. Szczepski.

(TUBERCULOSIS IN CHILDHOOD)
(TUBERCULOSIS, PULMONARY)
(HEART DEFECTS, CONGENITAL)
(THORACIC RADIOGRAPHY)
(DIAGNOSIS, DIFFERENTIAL)
(AORTIC DISEASES)

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(MIRA 18:12)

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Собрание по Исследованиям металлов, Москва, 1998

Исследования по тематике, посвященной 15-20 летию 1968 г.
(Конференция по теме «Белитализация» Москва, Изд-во АН СССР, 1969.
Иллюстрация вставлена. 1,000 копий напечатано.

Editorial Board: A. N. Dubrov, Corresponding Member, Academy of Sciences (USSR);
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 M.: M. R. Izrael'.

NOTES: This book is intended for astronomers. It may be of interest to physicists studying the atmosphere and designers of astronomical equipment.

The 80th reports of the Conference on the Study of the Ionosphere, held in Moscow from 16 to 25 June 1960. The Conference was organized by the Soviet Academy of Sciences and the Institute of Physics of the Academy of Sciences. The book contains summaries of 53 reports read at the Conference, treating topics such as ionospheric and fielding of the atmosphere. Individual reports deal with various aspects of ionospheric research. Included are brief summaries of the discussions which followed the presentations, and the resolution adopted by the Conference. References follow individual articles.

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Lena Sternberg - State Astronomical Institute Lena Sternberg]
The Character of Star Images

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~~X~~ Mr. L. A. HAYES, O. A.

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W. J. F. (Main Astronomical Observatory AS USSR). Observations of the Flickering of the Sun's Disc

Ignatyev, V. P. Ural Astronomical Observatory AS USSR. Prosvet

of Stripes to Compensate for Instability of Star Images when Making Telescopic Observations

Sablin, Yu. A. [Institute of Electromechanics AS USSR] Automatic

Building of Telescopes

Figure 2b, is: *V.* [Main Astronomical Observatory AS USSR]. The deviation of the field of view of the instability of star images

Dzhurava, N. V., and Yu. S. Strizhinsky [Main Astronomical Observatories]

AN UNUSUAL Motion Picture Attachment for Recording Star Flashes
With the ART-7 20-cm. Wendicus Telescope

DATA 7/9

246

L 33154-65 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1) Pf-4

ACCESSION NR: AP5006723

PO/0005/65/000/011/0001/0001

AUTHOR: Bronikowski, Adam

TITLE: Computers in the national economy

SOURCE: Przegląd techniczny, no. 11, 1965, 1, 4

TOPIC TAGS: computer, computer center, government economic planning/ ZAM-21
computer, ZAM-41 computer, ZAM-51 computer

ABSTRACT: In a recent interview with Eugeniusz Zadrzynski, representative of the Polish government for computer problems, several aspects of the role of electronic computers in the Polish national economy were discussed.

In 1966—1970, twenty-seven computing centers employing a total of 57 computers are planned for the larger Polish cities. Fifty industrial centers for design and production control will be established. Institutions of higher education will be the sites for 48 computing centers to meet educational, scientific, and industrial needs. The mining and power engineering industries will employ 18 computers. An additional 78 computers will serve a variety of other purposes.

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ACCESSION NR: AP5006723

Five new technical schools to prepare servicing and maintenance personnel are also planned; the first will open this year. A special center for electronic data processing will train some 1200 people a year.

Polish computer production lags behind Western Europe and the United States. Poland is only now beginning production of second-generation computers based on solid-state components. These are the ZAM and Odra types. The fully transistorized ZAM-21 performs 20,000 operations per second with ALGOL programming. The ZAM-41, intended for data processing, uses ALGOL and COBOL programming. Storage is drum, ferrite core, or tape. This computer will be capable of carrying 3 to 4 different programs practically simultaneously on a time-sharing system. Current plans call for the production of 75 of each of these models. The production of seven large ZAM-51 floating-point computers for scientific and technical problems is also foreseen.

ASSOCIATION: none

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ml
Card 2/2

BRONIKOWSKI, Adam

The Szczecin brain trust. Przegl techn 86 no.16:7 18 Ap '65.

BRONIKOWSKI, Adam

Problems of the Gdansk Shipyard. Przegl techn 86 no.17:7 25 Ap
'65.

BRONIKOWSKI, Adam, mgr.

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BRONIKOWSKI, Adam

Science in slippers. Przegl techn no.17:5 Ap '62.

BRONIKOWSKI, Adam

Jamno Lake's chance. Przegl techn no.18:6 6 My '62.

BRONIKOWSKI, Adam

Awaiting the golden egg; Mr. Orell's new synthetic building material. Przegl techn no.19:12 13 My '62.

BRONIKOWSKI, Adam

Harbors, merchant marine, shipyards; "Przegląd Techniczny's"
interview with prof. dr. Stanisław Darski, Minister of
Navigation. Przegl techn no. 20:1, 3 20 My '62.

BRONIKOWSKI, Adam

An interview by Zofia Szydlowska, Secretary of the Council for Industrial Patterns and Aesthetics with the President of the Ministers Council of the Polish People's Republic; subject - aesthetics. Przegl techn no.21:9,10 27 My '62.

BRONIKOWSKI, A.

The Polish light industry at the 31st International Poznan Fair.
Przegl techn no.23/24:5, 19 17 Je '62.

BRONIKOWSKI, Adam

Markey by white chimneys. Przegl techn no.25:1,3. Je '62.

P/005/62/000/031/005/005
1003/1250

AUTHOR: Bronikowski, Adam

TITLE: Sulfur — the Polish gold

PERIODICAL: Przegląd techniczny, 1962, no. 31, 7

TEXT: The production processes in the Polish sulfur industry are discussed, emphasizing the shortcomings in the Machow Sulfur Plant, which produces a maximum yield of 75 % of pure sulfur from its ores, as compared with the 90-95 % yield achieved by Sicilian plants. This is partly due to the 6-minute duration of the flotation process, instead of the optimum 12 minutes. Another serious problem is that of protection of the ore from seasonal rains. The wet ore cannot be processed and work in the departments of flotation and refining practically ceases in June. A yield of 90-94 % of sulfur is expected when a new plant is put into operation. The annual production of sulfur in the Tarnobrzeg Sulfur Plant, now under construction will be 400,000 tons in 1964. The plant will be one of the largest in the world.



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BRONIKOWSKI, Adam

Information and technological progress; interview with [mgr inz.]
Wojciech Pirog, Director of the Central Institute for Scientific
Technological and Economic Information. Przegl techn no.10:159 11
Mr '62

BRONIKOWSKI, Adam

The way leading to the enlivening of the Polish export is not simple. Przegl techn no.36:1,5 9 S '62.

BRONIKOWSKI, Adam

On the difficulties of the steel industry. Przegl techn
no.38:5 23 S '62.

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Will there be a rebirth in the production of films on mining?
Przegl techn no.46:4, 14 18 N '62.

BRONIKOWSKI, Adam

The floating hill and on the rheology of soils. Przegl techn no. 8:7.
F '62

BRONIKOWSKI, Adam

First steps; an interview with Zygmunt Moskwa, Minister of Telecommunication, concerning his activities in the Kielce region. Przegl techn no.52:5 30 D '62.

BRONIKOWSKI, Adam

Generalization, or narrow specialization; interview with Jan
Kordaszewski, Head of the Chair of Industrial Economics, Main
School of Planning and Statistics, Warsaw. Przegl tech no.47:
10 25 N '62.

BRONIKOWSKI, A.

The Jastrzebie colliery has begun its work. Przegl techn no.50:7
16 D '62.

BRONIKOWSKI, Adam

Technique beyond competition. Przegl techn 84 no.25:9 23 Je '63.

BRONIKOWSKI, Adam

"There will be no Trojan War"; the problem of applying computing elements in mining. Przegl techn 84 no.14:4,6 7 Ap '63.

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A year of open doors, interviews with Prof. Pawel Kosieradski and the engineer Tacikowski as representatives of the Institute of Precision Mechanics. Przegl techn 84 no.15:7 14 Ap '63.

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Greece interested in the production of PAFAWAG; interviews with Mazur, and Jozef Nawrocki of the PAFAWAG Works. Przegl techn 84 no.17:7 28 Ap '63.

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no.18:1,3 5 My '63.